

REMARKS

Claims 26-52 are currently pending. Claims 26, 48 and 51 have been amended.

Interview Summary

Two telephonic interviews took place on October 25, 2007 and November 5, 2007 between Steven Davis, Ph.D. and Kathryn Kizer, Esq., representing Applicants, and Examiner Wang. Applicants would like to thank Examiner Wang for her time. The parties discussed the rejections of record and Examiner Wang reviewed Applicants' proposed Amendments to overcome such rejections. After these interviews, it was agreed that the proposed Amendments would overcome the rejections of record.

Claim Amendments

Step A) in Claims 26, 48 and 51 have been amended to insert the phrase "in polyphosphoric acid to form a solution or dispersion" after the phrase "comprising at least one sulfonic acid group" to make explicitly clear that the reaction in Step A must take place in polyphosphoric acid. Additionally, independent Claims 26, 48 and 51 have been amended to delete the term "optionally" in step B) and to add steps D) and E) describing the two alternate processes of forming the membranes wherein step B) can occur before step C), or step B) can occur after step C). Original step D), now step F) has been amended to refer back to step C) or step E). Support for this amendment is found, for example, at page 35, lines 1-2 of the substitute specification.

No new matter has been added.

Rejection of Claims under 35 U.S.C. § 112, First Paragraph

Claims 26-52 were rejected under 35 U.S.C. § 112, first paragraph as failing to comply with the written description requirement. The Examiner stated that the specification fails to support Step B) of Claims 26, 48 and 51 being "optional." In a telephonic interview with the Examiner, this rejection was further explained. Applicants summarize the rejection as follows:

The claim preambles require formation of the polyazole polymer which is described in step B) to provide basis for the description of the product in each

claim. Therefore, the polyazole polymers must be formed for the claim to be adequately described.

In response, Applicants have amended independent Claims 26, 48 and 51 to include new steps D) and E) which describe an alternate order of the formation of the polyazole polymer. Original step D), which is step F) as amended, now depends on step C) or E). This amendment makes clear that the heating step B) wherein the polyazole polymer is formed does in fact occur – either it can occur in step B), before the formation of a layer/membrane, or it can occur in step E), after the formation of a layer/membrane. Thus, the formation of the polyazole polymers referred to in the preamble to Claims 26, 48 and 51 is supported by the explicit language of steps A) through F) of said claims. Reconsideration and withdrawal of the rejection are requested.

Rejection of Claims Under 35 U.S.C. § 102

Claims 26-29, 31, 35-37, 41-44 and 46-52 were rejected under 35 U.S.C. § 102(b) as being anticipated by US Patent Publication 2004/0062969 (Sakaguchi, et al.). Applicants respectfully disagree.

The Examiner premises the rejection on the following reasoning:

The language of step A can be taken to be either (1) mixing one or more aromatic or heteroaromatic tetraamino compounds with one or more aromatic or heteroaromatic carboxylic acids or derivatives thereof which contain at least two acid groups per carboxylic acid monomer, with at least part of the tetraamino compounds or the carboxylic acids comprising at least one sulfonic acid group *or* (2) mixing of one or more aromatic heteroaromatic diaminocarboxylic acids, of which at least part comprises sulfonic acid groups, in polyphosphoric acid to form a solution or dispersion.

(Office Action, page 9, section 5) (emphasis in original). The Examiner concluded, “[w]ith the alternative language used within the claim, polyphosphoric acid is not required in part (1) of step A, and thus step D is not required either.” (*Id.*).

Applicants respectfully disagree with this interpretation and submit that the claim language clearly indicates that both mixtures in Step A) contain polyphosphoric acid. However, in response to the Examiner’s interpretation of Claims 26, 48 and 51, Applicants have amended the claims to include the phrase “in polyphosphonic acid to form a solution or dispersion” to the first of the sections that the Examiner labels as (1) and (2). Thus, the application now explicitly

requires polyphosphoric acid as a solvent in Step A). The Examiner's interpretation of Claims 26, 48 and 51 is thereby excluded, and Applicants' invention is novel.

Rejection of Claims Under 35 U.S.C. § 103

Claims 30, 33, 34, 38, 39 and 45 were rejected over Sakaguchi in view of Matsuoka, Gerber, or Kerres. Applicants respectfully disagree.

Sakaguchi is discussed in detail above. Sakaguchi does not teach or suggest the membranes with partially hydrolyzed polyphosphoric acid moieties of the present invention. It is clear from a comparison of the membrane formation process, as well as the superior mechanical and conductive properties of the resultant membranes, that the present invention is non-obvious in view of Sakaguchi. Matsuoka, Gerber and Kerres each teach polymers made up of monomer units that may be used in the present invention, but do not teach or suggest membranes with partially hydrolyzed polyphosphoric acid moieties. Therefore, none of the deficiencies of Sakaguchi are overcome by the combination of references. Reconsideration and withdrawal of these rejections is respectfully requested.

Provisional Rejection of Claims for Non-statutory Double Patenting

Claims 26-52 have been provisionally rejected based on non-statutory double patenting over Claims 29-58 of co-pending Application 10/530,002 in view of the Sakaguchi reference.

In response, a Terminal Disclaimer in compliance with 37 C.F.R. § 1.321(c) is being filed with this Amendment, along with the appropriate fee.


SUMMARY AND CONCLUSIONS

The pending claims have been amended as necessary to more particularly point out and distinctly claim the invention. No new matter has been added. In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue.

If the Examiner feels that a telephone conference would expedite prosecution of this application, she is invited to call the undersigned.

Respectfully submitted,

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